Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

November 15, 2004

Mr. Martin Drango
Plant Manager
Progress Energy Florida
Post Office Box 14042, MAC DB44
St. Petersburg, Florida 33733

Re: PROPOSED Title V Air Operation Permit Renewal No. **1270028-007-AV**
DeBary Facility
Facility ID: **1270028**; ORIS Code: **6064**

Dear Mr. Drango:

One copy of the "PROPOSED PERMIT RENEWAL DETERMINATION" for the DeBary Facility, located at 788 West Highbanks Road, DeBary, Volusia County, is enclosed. This letter is only a courtesy to inform you that the DRAFT permit has become a PROPOSED permit.

An electronic version of this determination has been posted on the Division of Air Resource Management's world wide web site for the United States Environmental Protection Agency (U.S. EPA) Region 4 office's review. The web site address is:

http://www.dep.state.fl.us/air/eproducts/airpermit/AirSearch.asp

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED permit is made by the USEPA within 45 days, the PROPOSED permit will become a FINAL permit no later than 55 days after the date on which the PROPOSED permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED permit, the FINAL permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn. If you have any questions, please contact Tom Cascio at 850/921-9526.

Sincerely,

for Trina L. Vielhauer, Chief
Bureau of Air Regulation

Copy furnished to:
U.S. EPA, Region 4 (INTERNET E-mail Memorandum)
Len Kozlov, P.E., Central District Office
Scott Osbourn, P.E., Golder Associates, Inc.
Dave Meyer, Progress Energy Florida

PROPOSED Permit Renewal Determination
Progress Energy Florida
DeBary Facility
Title V Permit Renewal No. **1270028-007-AV**

I. Public Notice.

An "INTENT TO ISSUE TITLE V AIR OPERATION PERMIT RENEWAL" to Progress Energy Florida for the DeBary Facility, located at located at 788 West Highbanks Road, DeBary, Volusia County, was clerked on October 13, 2004. The "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT RENEWAL" was published in the Orlando Sentinel on October 14, 2004. The DRAFT Title V Air Operation Permit Renewal was available for public inspection at the Department's Central District office in Orlando, and the permitting authority's office in Tallahassee. Proof of publication of the "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT RENEWAL" was received on October 21, 2004.

II. Public Comment(s).

No official comments were received from the public or other agencies. The Department received an e-mail memorandum on October 28, 2004 from the applicant's representative with a draft letter dated October 22 containing comments, and an e-mail memorandum with an attached draft permit document on November 12, 2004. Discussed below are the applicant's comments and the Department response.

Comment Number	DRAFT Permit Reference	Requested Change	Department Response
1.	Placard page and emission unit description in Section III, Subsection A.	Remove reference to Appendix YYYY, NESHAP for stationary combustion turbines.	The Department agrees with this change. Units are subject to YYYY, but there are no applicable requirements for existing units.
2.	The permitting note dealing with heat input limitations following Specific Condition **A.1.**	Replace the permitting note dealing with heat input limitations for units 1 through 6 with more descriptive language.	The Department agrees with this change.
3.	Specific Condition **A.9.**	Add a specific ASTM test method in the specific condition.	The Department agrees with this change. Therefore, test method ASTM 1552-90 was added in the PROPOSED permit.
4.	Emission unit description in Section III, Subsection B.	Remove reference to Appendix YYYY, NESHAP for stationary combustion turbines.	The Department agrees with this change. Units are subject to YYYY, but there are no applicable requirements for existing units.
5.	The permitting note dealing with heat input limitations following Specific Condition **B.1.**	Place the permitting note back in the permit.	The Department disagrees with this change. The Department removed the permitting note related to permitted capacity because it would defeat applicable and federally enforceable requirements contained in permits PSD-FL-167, and in Rule 62-210.200 (PTE), F.A.C.

6.	Specific Condition **B.7.c.**	The applicant requested 2 hours exclusion for each ***cycle*** for startup, shutdown, and malfunction – with a maximum of exclusion of 4 hours per a block 24 hour period for startup, shutdown, and malfunction.	This change was not made. However, the specific condition was changed with more appropriate language as noted in the attached Statement of Basis, and in the PROPOSED permit document.
7.	Specific Condition **B.7.1.**	Remove this condition.	The Department agrees with this change.
8.	Specific Condition **B.16.**	Add EPA Method 7E in the Specific Condition.	The Department agrees with this change. Mass emissions will be reported as NO2.
9.	Specific Condition **B.17.**	Add a specific ASTM test method in the specific condition.	The Department agrees with this change. Therefore, test method ASTM 1552-90 was added in the PROPOSED permit.
10	Specific Condition **B.38.**	Remove the need to sample fuel for nitrogen content.	The Department agrees with this change.
11.	Specific Condition **B.42.**	Change the language dealing with excess emissions and compliance.	The language has been changed to further clarify the use of NOx CEMS data for continuous compliance. Please refer to Specific Condition **B.42.** in the PROPOSED permit document.
12.	Specific Condition **C.1.**	Move **C.1.** to Subsection A.	The Department disagrees with this change. The specific condition properly belongs at the emissions unit level in the permit.
13.	Specific Condition **C.3.**	Remove the phrase "but not to exceed permitted capacity".	The Department agrees with this change.

III. Conclusion.

The permitting authority hereby issues PROPOSED Permit Renewal No. **1270028-007-AV**, with the changes noted above.

STATEMENT OF BASIS
Progress Energy Florida
DeBary Facility
Volusia County

PROPOSED Title V Air Operation Permit Renewal No. 1270028-007-AV

This PROPOSED Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-212 and 62-213. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

This facility consists of ten intermittent duty simple cycle combustion turbine-electrical generators, fuel oil storage tanks and ancillary equipment.

Six of the units pre-date 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines and are not subject to Acid Rain regulations. These six turbines (Units 1 through 6) fire new No. 2 or new No. 6 fuel oil with the sulfur content not to exceed 0.5% and 0.7 % by weight, respectively. Each is a nominal 51.9 MW GE Model MS7000 combustion turbine-electrical generator with a maximum heat input (LHV) of 720 MMBtu/hr (No.6 fuel oil) and 825 MMBtu/hour (No. 2 fuel oil). Emissions are not controlled and each turbine exhausts through a separate stack. The emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required. These units began commercial service in 1975-1976.

The other four (Units 7 through 10) are subject to Subpart GG and were subject to the Rules for the Prevention of Significant Deterioration (PSD) and a determination of best available control technology (BACT). They are subject to the Acid Rain Phase II requirements of Title IV of the Clean Air Act. These four combustion turbine-electrical generator are fired with natural gas and/or new No. 2 fuel oil and equipped with inlet foggers. Each is a nominal 92.9 MW GE Model PG7111EA with a maximum heat input (LHV) of 1144 MMBtu/hr (No.2 fuel oil) and 1159 MMBtu/hour (natural gas). These units began commercial operation in 1992.

BACT for the four units consists of using clean fuels and good combustion to control particulate emissions (PM/PM_{10}), carbon monoxide (CO), sulfur dioxide (SO_2) and volatile organic compounds (VOC). Nitrogen oxides (NO_X) emissions are controlled by water injection to reduce the firing temperature. The BACT and Subpart GG require initial NO_X testing calibration and calibration of the water-to-fuel injection ratio to insure subsequent continuous compliance. Annual compliance tests and calibration are required.

Based on the Title V Air Permit Renewal Application received on May 17, 2004 this facility is a major source of hazardous air pollutants (HAPs). It holds ORIS code **6046** under the federal Acid Rain Program.

The applicant submitted an application for an Air Construction Permit to allow use of existing nitrogen oxides (NO_X) continuous emission monitoring systems (CEMS) at the four newest combustion turbine-electrical generators located at this facility for compliance purposes in lieu of tracking water-to-fuel ratios. A recent revision to Subpart GG allows use of the very accurate CEMS to insure compliance and obviates development of a separate compliance assurance monitoring (CAM) that would otherwise be required pursuant to 40 CFR 64.

The applicant requested that the CEMS also be used to demonstrate continuous compliance with the permitted BACT NO_X emission limits as revised in various permits issued subsequent to the initial PSD Permit.

The permitted NO_X limits for the four units are 25 parts per million, by volume, corrected to 15 percent oxygen (ppmvd @15% O_2) when firing natural gas and 42 ppmvd @15% O_2 when firing fuel oil. Progress Energy requested that compliance be determined on a 24-hour block (daily) basis and that two hours of excess emissions be allowed for each startup/shutdown cycle.

The Department reviewed hour-by-hour data from the EPA Air Markets Website that contains the CEMS electronic records submitted by companies subject to the Acid Rain regulations. The key findings are:

The units can be down for months at a time due to their intermittent duty status. The units are used most often during the hottest months of the year. Most days that the units are used, they operate between two and 12 hours. On certain days, the units experienced two startups and shutdowns.

The data show very consistent compliance with the applicable NO_X emission limits on an hour-by-hour basis. Exceptions are usually related to startups and shutdowns.
Compliance is consistently demonstrated when a four-hour averaging basis is used. Even fewer exceptions occur and these are usually related to blocks that include startups and shutdowns.
The Department concludes that a four hour averaging basis and the exclusion (if needed) of two hours per day of excess emissions is appropriate when using CEMS in lieu of the water-to-fuel ratio. The Department has determined that allowing more than two hours of excess emissions (such as four hours for two startup/shutdown cycles in a day) would render the process almost meaningless because so many days are characterized by few total hours of operation.

Following are the key changes in PROPOSED Title V Air Operation Permit Renewal (1270028-007-AV). They were primarily based on Air Construction Permit 1270028-006-AC that was processed and noticed with the DRAFT Title V Air Operation Permit Renewal.

The maximum heat input for Units 1, 2, 3, 4, 5, and 6 is adjusted to reflect the capabilities of the equipment at 20 degrees Fahrenheit (°F) instead of 59°F. There is no practical difference because the allowable heat input rates corresponding to operation at 20°F and 59°F lie on the same heat input curve. This revision will put the maximum heat input limitations on the same basis as those for the newer units (Units 7, 8, 9, and 10). The affected condition is Condition A.1. Compare with Condition B.1.

The averaging time for the NO_X emission limits for Units 7, 8, 9, and 10 given in Condition B.7 is set to 4 hours on a rolling basis. Compliance is determined using the Acid Rain CEMS.
The latest version of 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines is incorporated as Condition C.8. This latest version of Subpart GG provides for use of CEMS in lieu of water-to-fuel ratio for compliance with the NOx emissions standard given in Subpart GG and for excess emissions reporting.

- The permitting note related to heat input was not included for the four units permitted under the rules for the Prevention of Significant Deterioration (Condition B.1) but was included for the six units that preexisted the program (Conditions A.1). Information kept on site, data from the EPA Air Markets Website, and Departments standards for equipment and accuracy ensure units continue to operate

within their permitted heat input limits. [(Rule 62-297.310(5), F.A.C. incorporated as Specific Condition B.19)]

The number of SO2 allowances allocated by EPA was increased from 699 tons per year (TPY) to 705 TPY in accordance with Table 2 – Phase II Allowance Allocations (September 28, 1998, Federal Register/Volume 63, No.187) from 699 TPY to 705 TPY.
The condition requiring testing at 95 percent of capacity was changed. The new requirement is 90 percent, after which units may operate up to 110 percent of the tested capacity, but not to exceed permitted capacity. The new conditions are in Condition C.3

Specific Condition **B.7.** was changed (new paragraph **B.7.c.**).

To:

B.7. Nitrogen Oxides.

a. When firing natural gas, NOx emissions shall exceed neither 25.0 ppmvd corrected to 15% oxygen nor 107 pounds per hour based on a 4-hour rolling average of all valid data collected from the continuous emissions monitoring system (CEMS).

b. When firing distillate oil, NOx emissions shall exceed neither 42.0 ppmvd corrected to 15% oxygen based nor 182 pounds per hour on a 4-hour rolling average of all valid data collected from the NOx CEMS.

c. Excess emissions resulting from startup, shutdown and malfunction of any emissions unit shall be permitted providing: (1) best operational practices to minimize emissions are adhered to, and (2) the duration of excess emissions shall be minimized but in no case exceed two hours (total) in any 24 hour period and one hour for each additional startup within the same 24 hour period. In other words, excess emissions shall be limited to two hours in any 24 hour period in which the unit cycles once, three hours in which the unit cycles twice, and four hours in any 24 hour period in which the unit cycles three times. The duration of excess emissions shall be minimized but in no case exceed these durations unless specifically authorized by the Department. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

d. Compliance with the above standards ensures compliance with applicable NOx standards specified in the previously issued air construction permits for these units. Because compliance will be demonstrated continuously, an annual stack test will not be required. However, the Department reserves the right to require a "special compliance test" in accordance with Rule 62-297.310(7)(b), F.A.C. The existing NOx CEMS shall remain subject to all existing installation, calibration, certification, and operation requirements.

e. When requested by the Department, the CEMS emission rates for NOx on these units shall be corrected to ISO conditions to demonstrate compliance with the NOx standards established in 40 CFR 60.332. With regard to NSPS Subpart GG, the NOx CEMS data shall also be used to report excess emissions in accordance with 40 CFR 60.334(j)(1)(iii) and 40 CFR 60.7(c).

{Permitting Note: The purpose of this permit is to authorize the use of the existing NOx CEMS to demonstrate compliance with the applicable NOx standards. Pursuant to 40 CFR 64.2(b)(1)(vi), this will allow each unit to avoid a Compliance Assurance Monitoring (CAM) Plan for NOx emissions.}
[PSD-FL-167 (AC64-191015), Rule 62-212.400(BACT), F.A.C, BACT Determination dated October 16, 1991, PSD-FL-167I issued 5/6/97, 1270028-006-AC, and 40 CFR 60.332]

Specific Condition **B.42.** was changed.

From:

B.42. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as follows:
a. *Nitrogen oxides*. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the permitted nitrogen oxide standard by the
initial performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the initial performance test. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under 40 CFR 60.335(a).
[Rule 62-204.800, F.A.C.; 40 CFR 60.334(c)(1)]

To:

B.42. Alternate Monitoring Plan: Use of NO_X CEMS For Continuous Compliance. Pursuant to 40 CFR 64.2(b)(1)(vi), the applicant has elected to use the existing certified Acid Rain NO_X continuous emissions monitors for continuous compliance in order to be exempted from the Compliance Assurance Monitoring (CAM) requirements contained in 40 CFR 64. The following alternate monitoring may be used to demonstrate compliance with the 25(gas)/42(oil) ppmvd standard. The lbs/hr standards for NOx shall be demonstrated by annual stack test at full load only and for each fuel used for more than 400 hours during the previous calendar year using either of the test methods specified in condition **B.16**

(a) The NO_X CEM data shall be used in lieu of the monitoring system for water-to-fuel ratio and the reporting of excess emissions in accordance with 40 CFR 60.334(b), Subpart GG (CFR dated 2004). The calibration of the water-to-fuel ratio-monitoring device required in 40 CFR 60.335(c)(2) (CFR dated 2004) will be replaced by the 40 CFR 75 certification tests of the NO_X CEMS.

- Alternate Standards and NO_X CEMS Data Exclusion: The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and documented malfunction of a gas turbine. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such episodes. For the following identified operational periods, 1-hour NO_X emissions rate values may be excluded from the 4-hour rolling compliance averages in accordance with the corresponding requirements.

(1) Startup, Shutdown, and Malfunction: CEMS data of startup/shutdown or malfunction shall not be

used to calculate emission averages for compliance pursuant to 40 CFR 60.8(c). Note: A fuel-switch is not considered "startup".

- NO_X CEMS Requirements: For each gas turbine, the permittee shall keep calibrated, maintain, and operate continuous emissions monitors (CEMS) to measure and record emissions of nitrogen oxides (NO_X) and oxygen (O_2) in a manner sufficient to demonstrate compliance with the standards of this permit. A monitor for carbon dioxide (CO_2) may be used in place of the oxygen monitor, but the system shall comply with 40 CFR 60.334(b) (CFR dated 2004) for correcting the emissions to 15% oxygen.

(a) **Performance Specifications**. Each monitor shall be installed in a location that will provide emissions measurements representative of actual stack emissions. Each CEMS shall comply with the corresponding performance specifications that identify location, installation, design, performance, and reporting requirements.

(1) Each NO_X monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR Part 75, Subparts B and C. Record keeping and reporting shall be conducted pursuant to 40 CFR Part 75, Subparts F and G. The RATA tests required for the NO_X monitor shall be performed using EPA Method 7E or 20 as defined in Appendix A of 40 CFR 60. .

(b) **Data Collection**. Each CEMS shall be designed and operated to sample, analyze, and record emissions data evenly spaced over a 1-hour period during all periods of operation. Each 1-hour average shall be computed using at least one data point in each fifteen-minute quadrant of the 1-hour block during which the unit combusted fuel. If the NO_X CEMS measures concentration on a wet basis, the permittee shall use DEP approved methods for correction of measured emissions to a dry basis (0% moisture). The O_2 (or CO_2) CEMS shall express the 1-hour emission rate values in terms of "percent oxygen by volume". The NO_X CEMS shall express the 1-hour emission averages in terms of "ppmvd corrected to 15% oxygen" for compliance with the BACT standard and, when requested by the Department, ISO corrected at 15% oxygen for the NSPS standard.

(c) **Compliance Averages**. Compliance with the 4-hour rolling average NO_X emissions standards shall be based on data collected by each required CEMS. For purposes of determining compliance with the emission standards of this permit, missing data shall not be substituted. If monitoring data is authorized for exclusion (due to startup, shutdown, malfunction, or tuning), the 4-hour average shall be the average of the remaining valid 1-hour emission averages collected during actual operation. A 1-hour emissions average that includes any amount of oil firing shall only be included in the compliance average for oil firing. The CEMS used shall comply with 40 CFR 60.334(B)(2) (CFR dated 2004) which requires a minimum of 1 data point for each quadrant of a full unit operating hour or at least 2 data points (one in each of the two quadrants) when required quality assurance or maintenance activities are performed on the system.

(d) **Data Exclusion**. Except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall record emissions data at all times including episodes of startup, shutdown, and malfunction. Emissions data recorded during periods of startup, shutdown, or malfunction may only be excluded from the compliance averages in accordance with the requirements previously specified in this permit. To the extent practicable, the permittee shall minimize the duration of data excluded for startup, shutdown and malfunctions in accordance with B.7(c) unless specifically authorized in writing by the department's district office for longer periods.

Data recorded during startup, shutdown or malfunction shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during startup, shutdown and malfunction. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited. Excluded emissions data shall be summarized in the required quarterly report.

(e) **Monitor Availability**. Monitor availability shall not be less than 95% in any calendar quarter. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

[Rules 62-204.800, 62-210.700, 62-4.130, 62-4.160(8), F.A.C.; 40 CFR 60.7; and Applicant Request Dated April 7, 2004.]

For the most part, the resulting PROPOSED Title V Air Operation Permit Renewal mirrors the previous version with the exceptions indicated above. The basis for each condition is referenced immediately following each condition.

Progress Energy Florida

DeBary Facility

Facility ID No. **1270028**

Volusia County

Title V Air Operation Permit Renewal

PROPOSED Permit No. **1270028-007-AV**

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Permitting South Section

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/922-6979

Compliance Authority

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767

Telephone: 407/894-7555
Fax: 407/897-2966

Title V Air Operation Permit Renewal
PROPOSED Permit No. **1270028-007-AV**

Table of Contents

Permittee:
Progress Energy Florida
Post Office Box 14042 MAC DB44
St. Petersburg, FL 33733

PROPOSED Permit No. 1270028-007-AV
Facility ID No. 1270028
SIC Nos.: 49
Project: Title V Air Operation Permit Renewal

This permit is for the operation of the DeBary Facility. This facility is located at 788 West Highbanks Road, DeBary, Volusia County; UTM Coordinates: Zone 17, 467.5 km East and 3197.2 km North; Latitude: 28° 54' 17" North and Longitude: 81° 19' 55" West.

This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix H-1, Permit History
Appendix TV-4, TITLE V CONDITIONS (version dated 02/12/02)
Appendix GG, NSPS for Stationary Gas Turbines
APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)
Statement of Basis
TABLE 297.310-1, CALIBRATION SCHEDULE (version dated 10/07/96).
FIGURE 1 - SUMMARY REPORT-GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE REPORT (version dated 7/96).
Phase II Acid Rain Part Application Renewal, signed by the Designated Representative on April 26, 2004.

Permit Effective Date: January 1, 2005
Renewal Application Due Date: July 5, 2009
Expiration Date: December 31, 2009

Michael G. Cooke, Director
Division of Air Resource Management

MGC/tbc

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of ten peaking combustion gas turbines.

Six of them (P1, P2, P3, P4, P5, and P6) are each 51.9 megawatt simple cycle units manufactured by General Electric Model MS7000. These combustion turbines are fired with new No. 6 or new No. 2 fuel oil.

The latter four combustion turbines (P7, P8, P9, P10) are each 92.9 megawatt simple cycle units manufactured by General Electric (Model PG7111EA). The units are fired with natural gas and/or new No. 2 fuel oil containing an average of 0.3 percent (%) sulfur, by weight, and a maximum of 0.5 % sulfur, by weight. Annual hours of operation are limited to an equivalent of 3,390 or less based on a sliding scale related to the fuel sulfur content. Control measures and equipment consists of firing relatively clean fuel, good combustion practices, and water injection.

Also, included in this permit are miscellaneous insignificant emissions units and/or activities.

Based on the Title V permit renewal application received on May 17, 2004, this facility is a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID Nos. and Brief Descriptions.

E.U. ID No.	Brief Description
-003	Peaking Combustion Turbine Unit No. 1
-005	Peaking Combustion Turbine Unit No. 2
-007	Peaking Combustion Turbine Unit No. 3
-009	Peaking Combustion Turbine Unit No. 4
-011	Peaking Combustion Turbine Unit No. 5
-013	Peaking Combustion Turbine Unit No. 6
-015	Combustion Turbine Unit No. 7
-016	Combustion Turbine Unit No. 8
-017	Combustion Turbine Unit No. 9
-018	Combustion Turbine Unit No. 10

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:
Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers
Table 1-1, Summary of Air Pollutant Standards and Terms
Table 2-1, Summary of Compliance Requirements

These documents are on file with the permitting authority:
FINAL Title V Permit Revision No. 1270028-005-AV issued on July 11, 2001.
Title V Permit Renewal Application received on May 17, 2004.
Acid Rain Phase II Part Application Renewal signed by the Designated Representative on April 26, 2004.
Additional Information Request Dated July 14, 2004.
Additional Information Responses Received July 19, July 22, and 29, 2004.
DRAFT Title V Permit Renewal clerked on October 13, 2004.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV- 4, TITLE V CONDITIONS, (version dated 02/12/02) is a part of this permit. {Permitting note: APPENDIX TV- 4, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

2. Not federally enforceable. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rule 62-296.320(4)(b)1. & 4., F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA).
a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 1515
Lanham-Seabrook, Maryland 20703-1515
Telephone: 301/429-5018

b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.
[40 CFR 68]

5. Insignificant Emissions Units and or Activities. Appendix I - List of insignificant emission units and/or activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430 (6) and 62-4.040 (1)(b), F.A.C.]

6. Not federally enforceable. General Pollutant Emission Limiting Standards. Volatile Organic Compounds Emissions or Organic Solvents Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.
{Permitting Note: No vapor emissions control devices or systems are deemed necessary nor ordered by the Department as of the issuance date of this permit.}
[Rule 62-296.320(1)(a), F.A.C.]

7. Not federally enforceable. Unconfined emissions of Particulate Matter. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any emissions unit whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.

Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:
a. Paving and maintenance of roads, parking areas and yards.
b. Landscaping or planting of vegetation.
c. Limiting access to plant property by unnecessary vehicles.
[Rule 62-296.320(4)(c)1. & 3., F.A.C.; and, proposed by applicant in the initial Title V permit application received June 14, 1996.]

8. Timely Recording, Monitoring and Reporting: When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.
[Rule 62-213.440, F.A.C.]

9. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3), F.A.C., shall be submitted within 60 (sixty) days after the end of the calendar year, using DEP Form No. 62-213.900(7).
{See condition 51., APPENDIX TV-4, TITLE V CONDITIONS}
[Rule 62-214.420(11), F.A.C.]

10. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Central District Office:

Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767
Telephone: 407/894-7555
Fax: 407/897-2966

11. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303
Telephone: 404/562-9155, Fax: 404/562-9164

12. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.
[Rule 62-213.420(4), F.A.C.]

Section III. Emissions Unit and Conditions.

Subsection A. This section addresses the following emissions units.

E.U. ID No.	Brief Description
-003	Peaking Combustion Turbine Unit No. 1
-005	Peaking Combustion Turbine Unit No. 2
-007	Peaking Combustion Turbine Unit No. 3
-009	Peaking Combustion Turbine Unit No. 4
-011	Peaking Combustion Turbine Unit No. 5
-013	Peaking Combustion Turbine Unit No. 6

Each of the six peaking combustion turbines (PCT) is a General Electric, Model MS 7000. The output is rated at 51,900 KW. New No. 2 or new No. 6 fuel oil is allowed to be fired, with the sulfur content not to exceed 0.5% and 0.7 % by weight, respectively. Commercial operation began on February 6, 1976; March 20, 1976; December 31, 1975; April 14, 1976; December 22, 1975; and April 30, 1975, respectively for PCT Units 1 through 6.

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The operation rate for each PCT shall not exceed:
a. 720 MMBtu/hr (LHV) at 20 °F using new No. 6 fuel oil, or
b. 825 MMBtu/hr (LHV) at 20 °F using new No. 2 fuel oil.
{Permitting note: The previous permit reflected heat input at 59°F.}
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

A.2. Methods of Operation - Fuels.
a. Startup: The only fuels allowed to be burned are new No. 2 or new No. 6 fuel oil.
b. Normal: The only fuels allowed to be burned are new No. 2 or new No. 6 fuel oil.
New No. 2 fuel oil shall not be co-fired with new No. 6 fuel oil.
[Rule 62-213.410, F.A.C.]

A.3. Hours of Operation. Each PCT is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting note: Unless otherwise specified, the averaging times for Specific Conditions **A.4.** through **A.6.** are based on the specific averaging time of the applicable test method.}

A.4. Sulfur Content No.2 Fuel Oil. The maximum sulfur content of the new No. 2 fuel oil shall not exceed 0.5 percent by weight.
[AO64-207447 and proposed by applicant in the initial Title V permit application received June 14, 1996]

A.5. Sulfur Content No. 6 Fuel Oil. The maximum sulfur content of the new No. 6 fuel oil shall not exceed 0.7 percent by weight.
[AC64-2116, AC64-2117, AC64-2118, AC64-2119, AC64-2120, AC64-2121, AO64-207447 and proposed by applicant in the initial Title V permit application received June 14, 1996]

A.6. Visible emissions. Visible emissions from each PCT unit shall not be equal to or greater than 20 percent opacity.
[Rule 62-296.320(4)(b)1., F.A.C. and AO64-207447]

Monitoring of Operations

A.7. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. Fuel oil samples shall be collected from the single facility fuel oil storage tank at the end of each delivery day for determination of bulk sulfur concentration. See **Specific Condition A.9.**
[Rule 62-213.440, F.A.C.]

{Permitting Note: The facility has a single fuel oil storage tank. The maximum sulfur specifications of the contents of each truck are supplied. The requirements of Subsection B for fuel oil used in Units 7, 8, 9 and 10 further insure that the fuel oil used by Units 1, 2, 3, 4, 5 and 6 will be significantly less than 0.7 percent.}

A.8. Determination of Process Variables.

(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.9. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-94, ASTM D4294-90(95), or ASTM 1552-90 or both ASTM D4057-88 and ASTM D129-95, or the latest edition of the above ASTM methods.
[Rules 62-213.440 and 62-297.440, F.A.C.]

A.10. The test method for visible emissions shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.
[Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

A.11. PCT Units No. 1 through 6 shall be tested in accordance with EPA Method 9 within 10 days after being placed back in operation using new No. 6 fuel oil. [AO64-207447]

A.12. PCT Units No. 1 through 6 shall be tested for visible emissions annually except as described in Specific Condition **A.14.**
[Rule 62-297.310(7), F.A.C.]

A.13. Opacity Compliance Tests. When EPA Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the

period of observation shall be equal to the duration of the batch cycle or operation completion time.

b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
[Rule 62-297.310(4)(a)2., F.A.C.]

A.14. (a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 -- September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions;

8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.

{Permitting Note: The owner or operator shall conduct testing for visible emissions while firing fuel oil for each combustion turbine upon that turbine's exceeding 400 hours of operation on fuel oil in any given federal fiscal year (October 1 through September 30). Regardless of the number of hours of operation on fuel oil, at least one compliance test shall be conducted on all ten combustion turbines every five years, coinciding with the term of the operation permit for these turbines.}
[Rule 62-297.310(7), F.A.C.]

A.15. Common Conditions. These emissions units are also subject to conditions contained in **Subsection C. Common Conditions.**

Subsection B. This section addresses the following emissions units.

E.U. ID No.	Brief Description
-015	Combustion Turbine Unit No. 7
-016	Combustion Turbine Unit No. 8
-017	Combustion Turbine Unit No. 9
-018	Combustion Turbine Unit No. 10

Each simple cycle combustion turbine (CT) is a General Electric PG7111EA model with a nameplate rating of 92.9 MW at ISO conditions. Each CT is allowed to burn new No. 2 fuel oil and/or natural gas. NO_X emissions are controlled by water-injection. These emissions units began commercial operation on November 1, 1992.

Regulations: Each CT is regulated under Acid Rain, Phase II; NSPS - 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; NSPS 40 CFR 60 Subpart A; Rule 212.400(5), F.A.C., Prevention of Significant Deterioration (PSD); and Rule 62-212.400(6), F.A.C. Best Available Control Technology (BACT) Determination, dated October 16, 1991.

{Permitting Note: These units are permitted under PSD-FL-167 (AC64-191015) issued on October 18, 1991 and subsequent modifications including re-issued Permit PSD-FL-167I (1270028-002-AC) dated May 6, 1997 and re-issued Permit PSD-FL-167J (1270028-004-AC) dated March 31, 2000.}

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. The operation rate for each CT shall not exceed:
a. 1,144 MMBtu/hr/unit (LHV) at 20°F using new No. 2 oil, or
b. 1,159 MMBtu/hr/unit (LHV) at 20°F using natural gas.
[Rules 62-4.160(2), 62-210.200(PTE), F.A.C., AC64-191015, PSD-FL-167 and 1270028-002-AC]

B.2. Methods of Operation.
a. Fuels.
1. Startup: The only fuels allowed to be burned are natural gas and/or new No. 2 fuel.
2. Normal: The only fuels allowed to be burned are natural gas and/or new No. 2 fuel.

b. Inlet Foggers. The inlet foggers installed at the compressor inlet to each of the four simple cycle combustion turbines may operate up to 4,900 hours per year in aggregate (average 1,225 hours per unit per year).

[Rule 62-213.410, F.A.C.; AC64-191015(B); 1270028-003-AV; and, 1270028-004-AC]

B.3. Fuel Consumption. The maximum fuel consumption for the 4 CTs at 59 °F shall not exceed:

a. 106,133,333 gal/yr of new No. 2 fuel oil.

b. 14,212 (million cubic feet)/yr of natural gas.

[PSD-FL-167I (1270028-002-AC) and, proposed by applicant in the initial Title V permit application amendment received August 29, 1997]

B.4. Capacity Factor. The capacity factor shall be limited to 33% based on a weighted 12-month rolling average sulfur content of 0.30 %. However, if the weighted rolling average sulfur content of the fuel oil is less than 0.30%, the capacity factor may be adjusted using the following table:

Percent Average Sulfur Content	% Capacity Factor	Cumulative Hours/Year for any four CT
0.30 - 0.295	33	11,564 (based on an average of 2891 hr/CT/yr)
0.29 - 0.285	34.4	12,056 (based on an average of 3014 hr/CT/yr)
0.28 - 0.275	35.8	12,544 (based on an average of 3136 hr/CT/yr)
0.27 - 0.265	37.2	13,036 (based on an average of 3259 hr/CT/yr)
0.26 - or less	38.7	13,560 (based on an average of 3390 hr/CT/yr)

[AC64-191015]

B.5. Hours of Operation. The cumulative hours of operation for any CT combination shall not exceed 13,560 hours/year, at 38.7% capacity factor. **See specific Condition B.4.**

[Rules 62-210.200(PTE) and 62-4.160(2), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting note: Unless otherwise specified, the averaging times for Specific Conditions **B.6.** through **B.14.** are based on the specific averaging time of the applicable test method.}

B.6. Emissions Limits. All emission limits in **Specific Conditions B.7.** through **B.14.** are based on operation at 59 °F and 15% O_2.

[PSD-FL-167 (AC64-191015)]

B.7. Nitrogen Oxides.

a. When firing natural gas, NOx emissions shall exceed neither 25.0 ppmvd corrected to 15% oxygen nor 107 pounds per hour based on a 4-hour rolling average of all valid data collected from the continuous emissions monitoring system (CEMS).

b. When firing distillate oil, NOx emissions shall exceed neither 42.0 ppmvd corrected to 15% oxygen nor 182 pounds per hour, based on a 4-hour rolling average of all valid data collected from the NOx CEMS.

c. Excess emissions resulting from startup, shutdown and malfunction of any emissions unit shall be permitted providing: (1) best operational practices to minimize emissions are adhered to, and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period with one unit cycle and one hour for each additional startup within the same 24 hour period. In other words, excess emissions shall be limited to two hours in any 24 hour period in which the unit cycles once, three hours in which the unit cycles twice, and four hours in any 24 hour period in which the unit cycles three times. The duration of excess emissions shall be minimized but in no case exceed these durations unless specifically authorized by the Department. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. For the purpose of reporting excess emissions pursuant to 40 CFR 60.334(b)(3), hourly averages exceeding the requirements in Condition B.7 a and b shall be reported.

d. Compliance with the above standards ensures compliance with applicable NOx standards specified in the previously issued air construction permits for these units. Because compliance will be demonstrated continuously, an annual stack test will not be required. However, the Department reserves the right to require a "special compliance test" in accordance with Rule 62-297.310(7)(b), F.A.C. The existing NOx CEMS shall remain subject to all existing installation, calibration, certification, and operation requirements.

e. When requested by the Department, the CEMS emission rates for NOx on these units shall be corrected to ISO conditions to demonstrate compliance with the NOx standards established in 40 CFR 60.332. With regard to NSPS Subpart GG, the NOx CEMS data shall also be used to report excess emissions in accordance with 40 CFR 60.334(j)(1)(iii) and 40 CFR 60.7(c). *{Permitting Note: The purpose of this permit condition is to authorize the use of the existing NOx CEMS to demonstrate compliance with the applicable NOx standards. Pursuant to 40 CFR 64.2(b)(1)(vi), this will allow each unit to avoid a Compliance Assurance Monitoring (CAM) Plan for NOx emissions.}*

[PSD-FL-167 (AC64-191015), Rule 62-212.400(BACT), F.A.C, BACT Determination dated October 16, 1991, PSD-FL-167I issued 5/6/97, 1270028-006-AC, and 40 CFR 60.332]

B.8. Sulfur Dioxide. The new No. 2 fuel oil's sulfur content by weight shall not exceed 0.30 percent average, based upon a weighted 12 month rolling average, and 0.5 percent maximum (555 lb/hr/unit and 1,925 TPY, total for all 4 CTs).
[PSD-FL-167 (AC64-191015) and BACT Determination dated October 16, 1991]

B.9. Sulfur Dioxide. The sulfur content of the natural gas shall not exceed 0.8 percent by weight.

[40 CFR 60.333(b)]

B.10. Particulate Matter. PM/PM_{10} emissions shall not exceed 0.015 lb/MMBtu (15.0 lb/hr/unit and 102 TPY, for all 4 CTs).
[PSD-FL-167 (AC64-191015) and BACT Determination dated October 16, 1991]

B.11. Volatile Organic Compounds. VOC emissions shall not exceed 5 lb/hr/unit and 34 TPY, for all 4 CTs.
[PSD-FL-167 (AC64-191015) and BACT Determination dated October 16, 1991]

B.12. Carbon Monoxide. CO emissions shall not exceed 54 lb/hr/unit and 365 TPY, for all 4 CTs.
[PSD-FL-167 (AC64-191015) and BACT Determination dated October 16, 1991]

B.13. Sulfuric Acid Mist. The sulfur content by weight shall not exceed 0.30 percent, based upon a weighted 12-month rolling average, and 0.5 percent maximum (69 lb/hr/unit and 469 TPY, 12-month rolling average, for all 4 CTs).
[PSD-FL-167 (AC64-191015) and BACT Determination dated October 16, 1991]

B.14. Visible Emissions . Visible emissions shall not exceed 20 percent opacity except at full load, in which case visible emissions shall not exceed 10 percent opacity.
[PSD-FL-167 (AC64-191015)]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.15. As required by this permit, compliance tests shall be conducted each federal fiscal year (October 1 – September 30) for the pollutants listed in **Specific Conditions B.16.** through **B.23.,** below.
[Rule 62-297.310(7), F.A.C.]

B.16. Nitrogen Oxides. The test method for NO_X emissions shall be EPA Method 20 or EPA method 7E. See Specific Condition **B.7.**
[PSD-FL-167 (AC64-191015)]

B.16.1. If conducted within 90 to 100 percent of rated capacity at the turbine inlet temperature, the annual NO_X continuous monitor RATA required pursuant to 40 CFR 75 may be substituted for the annual compliance stack test.
[Applicant Request dated April 7, 2004.]

B.17. Sulfur Dioxide. The owner or operator shall determine compliance with the sulfur content standard in **Specific Conditions B.8. and B.9.** as follows: Fuel analysis as

specified in ASTM D 2880-94, or ASTM 1552-90, or the latest edition, shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, D 3246-81, or ASTM D 5504-01, or the latest edition, shall be used for the sulfur content of gaseous fuels (incorporated by reference-see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator.
[AC64-191015 and 40 CFR 60.335(d)]

B.18. Particulate Matter. The test method for PM/PM_{10} shall be EPA Method 5 or Method 17.
[PSD-FL-167 (AC64-191015)]

B.19. A one hour opacity test for each CT with opacity values no greater than 10% at full load, may serve as the annual particulate matter test. If however, opacity values from any CT are over 10% at full load, then a Method 5 or Method 17 particulate test must be conducted on the CT(s) to prove compliance with the particulate matter standard.
[PSD-FL-167 (AC64-191015)]

B.20. Volatile Organic Compounds. The test method for VOC shall be EPA Method 25A. Testing is not required if compliance with CO limit is shown.
[PSD-FL-167 (AC64-191015)]

B.21. Carbon Monoxide. The test method for CO shall be EPA Method 10.
[PSD-FL-167 (AC64-191015)]

B.22. Visible Emissions. The test method for visible emissions shall be EPA Method 9.
[PSD-FL-167 (AC64-191015)]

B.23. Sulfuric Acid Mist. The test method for sulfuric acid mist shall be EPA Method 8 or fuel analysis as specified in Specific Condition **B.17.**
[PSD-FL-167 (AC64-191015) and 40 CFR 60.335(d)]

B.24. Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
[40 CFR 60.8(c)]

B.25. Compliance with standards in 40 CFR 60, other than opacity, shall be determined in accordance with performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.
[40 CFR 60.11(a)]

B.26. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operation and maintenance procedures, and inspection of the source.
[40 CFR 60.11(d)]

B.27. Credible Evidence. For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in 40 CFR 60, nothing in 40 CFR 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.
[40 CFR 60.11(g)].

B.28. Circumvention. No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.
[40 CFR 60.12]

B.29. [Reserved.]

B.30. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of 40 CFR 60 or other methods and procedures as specified in this permit, except as provided for in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in paragraph 40 CFR 60.335(f).
[40 CFR 60.335(b)]

B.31. To meet the requirements of 40 CFR 60.334(h) for sulfur analysis, the owner or operator shall meet the requirements of 60.334(h)(3). The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
[40 CFR 60.335(h)]

B.32. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.]

B.33. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.]

B.34. Applicable Test Procedures.
(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When EPA Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.
(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached.
(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.
[Rule 62-297.310(4), F.A.C.]

B.35. Determination of Process Variables.

(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

B.36. The permittee shall comply with the requirements contained in APPENDIX SS-1, Stack Sampling Facilities, attached to this permit.
[Rule 62-297.310(6), F.A.C.]

B.37. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.
(a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 -- September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

10. An annual compliance test conducted for visible emissions shall not be required for units exempted from permitting at Rule 62-210.300(3)(a), F.A.C., or units permitted under the General Permit provisions at Rule 62-210.300(4), F.A.C.

(b) *Special Compliance Tests.* When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) *Waiver of Compliance Test Requirements.* If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.
[Rule 62-297.310(7), F.A.C. and SIP approved]

{Permitting Note: The owner or operator shall conduct testing for visible emissions while firing fuel oil for each combustion turbine upon that turbine's exceeding 400 hours of operation on fuel oil in any given federal fiscal year (October 1 through September 30). Regardless of the number of hours of operation on fuel oil, at least one compliance test shall be conducted on all ten combustion turbines every five years, coinciding with the term of the operation permit for these turbines.}

{Permitting Note: The annual NO_X and SO_2 tests that are required by Rule 62-297.310(7), F.A.C., can be done during the annual RATA as satisfaction of this requirement, provided all other testing requirements specified in the permit are met.}

Monitoring of Operations

B.38. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60, Subpart GG shall monitor sulfur content of the fuel being fired in the turbine in accordance with the procedure described in 40CFR60.334(h)(1). The applicant shall not claim an allowance for fuel bound nitrogen.
[Applicant request on fuel bound nitrogen. 40 CFR 60.334(h)(i)(1) from version dated July 8, 2004]

B.39. The permittee shall monitor sulfur content of the new No. 2 fuel oil and sulfur content of natural gas. These values may be provided by the vendor and the sulfur content, for compliance purposes, shall be based on a weighted 12 month rolling average from fuel samples collected from the storage tank taken at the end of each delivery day. The frequency of determinations of these values shall be as follows:

A. New No. 2 Fuel Oil
The sulfur content shall be determined at the end of each day that fuel is transferred to the storage tanks from any other source. The sulfur content of the fuel oil in the storage tank shall be based on a weighted 12 month rolling average and shall not exceed 0.3%. The maximum weighted sulfur content of the fuel oil shall not exceed 0.5% at any time. Records of these values shall be kept by the facility for a five year period for regulatory agency inspection purposes.

[Rule 62-4.070(3), F.A.C., AC64-191015(B) and EPA's October 25, 1997 approval letter]

{Permitting Note: The above requirements are applicable when demonstrating compliance with the NSPS limits. Proper maintenance and use of the Acid Rain NO_X CEMs is an acceptable alternative for monitoring compliance with the BACT limits specified in condition B.7.}

Continuous Monitoring Requirements

B.40. The owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form [see 40 CFR 60.7(d)] to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or, the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or, the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report. [40 CFR 60.7(c)(1), (2), (3), (4)]

B.41. Reserved.

Recordkeeping and Reporting Requirements

B.42. Alternate Monitoring Plan: Use of NO_X CEMS For Continuous Compliance. Pursuant to 40 CFR 64.2(b)(1)(vi), the applicant has elected to use the existing certified Acid Rain NO_X continuous emissions monitors for continuous compliance in order to be exempted from the Compliance Assurance Monitoring (CAM) requirements contained in 40 CFR 64. The following alternate monitoring may be used to demonstrate compliance with the 25(gas)/42(oil) ppmvd standard. The lbs/hr standards for NOx shall be demonstrated by annual stack test at full load only and for each fuel used for more than 400 hours during the previous calendar year using either of the test methods specified in condition **B.16**

(a) The NO_X CEM data shall be used in lieu of the monitoring system for water-to-fuel ratio and the reporting of excess emissions in accordance with 40 CFR 60.334(b), Subpart GG (CFR dated 2004). The calibration of the water-to-fuel ratio-monitoring device required in 40 CFR 60.335(c)(2) (CFR dated 2004) will be replaced by the 40 CFR 75 certification tests of the NO_X CEMS.

- Alternate Standards and NO_X CEMS Data Exclusion: The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and documented malfunction of a gas turbine. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such episodes. For the following identified operational periods, 1-hour NO_X emissions rate values may be excluded from the 4-hour rolling compliance averages in accordance with the corresponding requirements.

(1) Startup, Shutdown, and Malfunction: CEMS data of startup/shutdown or malfunction shall not be used to calculate emission averages for compliance pursuant to 40 CFR 60.8(c). Note: A fuel-switch is not considered "startup".

- NO_X CEMS Requirements: For each gas turbine, the permittee shall keep calibrated, maintain, and operate continuous emissions monitors (CEMS) to measure and record emissions of nitrogen oxides (NO_X) and oxygen (O_2) in a manner sufficient to demonstrate compliance with the standards of this permit. A monitor for carbon dioxide (CO_2) may be used in place of the oxygen monitor,

but the system shall comply with 40 CFR 60.334(b) (CFR dated 2004) for correcting the emissions to 15% oxygen.

(a) **Performance Specifications**. Each monitor shall be installed in a location that will provide emissions measurements representative of actual stack emissions. Each CEMS shall comply with the corresponding performance specifications that identify location, installation, design, performance, and reporting requirements.

(1) Each NO_X monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR Part 75, Subparts B and C. Record keeping and reporting shall be conducted pursuant to 40 CFR Part 75, Subparts F and G. The RATA tests required for the NO_X monitor shall be performed using EPA Method 7E or 20 as defined in Appendix A of 40 CFR 60. .

(b) **Data Collection**. Each CEMS shall be designed and operated to sample, analyze, and record emissions data evenly spaced over a 1-hour period during all periods of operation. Each 1-hour average shall be computed using at least one data point in each fifteen-minute quadrant of the 1-hour block during which the unit combusted fuel. If the NO_X CEMS measures concentration on a wet basis, the permittee shall use DEP approved methods for correction of measured emissions to a dry basis (0% moisture). The O_2 (or CO_2) CEMS shall express the 1-hour emission rate values in terms of "percent oxygen by volume". The NO_X CEMS shall express the 1-hour emission averages in terms of "ppmvd corrected to 15% oxygen" for compliance with the BACT standard and, when requested by the Department, ISO corrected at 15% oxygen for the NSPS standard.

(c) **Compliance Averages**. Compliance with the 4-hour rolling average NO_X emissions standards shall be based on data collected by each required CEMS. For purposes of determining compliance with the emission standards of this permit, missing data shall not be substituted. If monitoring data is authorized for exclusion (due to startup, shutdown, malfunction, or tuning), the 4-hour average shall be the average of the remaining valid 1-hour emission averages collected during actual operation. A 1-hour emissions average that includes any amount of oil firing shall only be included in the compliance average for oil firing. The CEMS used shall comply with 40 CFR 60.334(B)(2) (CFR dated 2004) which requires a minimum of 1 data point for each quadrant of a full unit operating hour or at least 2 data points (one in each of the two quadrants) when required quality assurance or maintenance activities are performed on the system.

(d) **Data Exclusion**. Except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall record emissions data at all times including episodes of startup, shutdown, and malfunction. Emissions data recorded during periods of startup, shutdown, or malfunction may only be excluded from the compliance averages in accordance with the requirements previously specified in this permit. To the extent practicable, the permittee shall minimize the duration of data excluded for startup, shutdown and malfunctions in accordance with B.7(c) unless specifically authorized in writing by the department's district office for longer periods. Data recorded during startup, shutdown or malfunction shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during startup, shutdown and malfunction. Emissions of any quantity or duration that

occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited. Excluded emissions data shall be summarized in the required quarterly report.

(e) **Monitor Availability**. Monitor availability shall not be less than 95% in any calendar quarter. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

[Rules 62-204.800, 62-210.700, 62-4.130, 62-4.160(8), F.A.C.; 40 CFR 60.7; and Applicant Request Dated April 7, 2004.]

B.43. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
[40 CFR 60.7(b)]

B.44. The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.
[40 CFR 60.7(d)(1) and (2)]

B.45. (1) Notwithstanding the frequency of reporting requirements specified in 40 CFR 60.7(c), an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in 40 CFR 60, Subpart A, and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in 40 CFR 60.7(e)(2).
(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the non-complying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in 40 CFR 60.7(e)(1) and (e)(2).
[40 CFR 60.7(e)]

B.46. The permittee shall maintain a file of all measurements, including continuous monitoring systems, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.
[40 CFR 60.7(f)]

B.47. The permittee shall record on a monthly basis in a written log the number of hours of operation for each evaporative cooling system, and the total combined hours of operation for the previous 12 months for all evaporative cooling systems.
[Rule 62-4.160(15), F.A.C.; and, 1270028-004-AC]

B.48. These emissions units are also subject to conditions contained in **Subsection C. Common Conditions.**

Subsection C. Common Conditions.

E.U. ID No.	Brief Description
-003	Peaking Combustion Turbine Unit No. 1
-005	Peaking Combustion Turbine Unit No. 2
-007	Peaking Combustion Turbine Unit No. 3
-009	Peaking Combustion Turbine Unit No. 4
-011	Peaking Combustion Turbine Unit No. 5
-013	Peaking Combustion Turbine Unit No. 6
-015	Combustion Turbine Unit No. 7
-016	Combustion Turbine Unit No. 8
-017	Combustion Turbine Unit No. 9
-018	Combustion Turbine Unit No. 10

The following specific conditions apply to the emissions units listed above:

Excess Emissions

{Permitting note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS or NESHAP provision.}

C.1. Except as permitted in Specific Condition B.7.c., excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

C.2. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Test Methods and Procedures

C.3. Permitted Capacity. Testing of emissions shall be conducted with the source operating at permitted capacity. Permitted capacity is defined as 90 - 100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 110 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.

[Rule 62-297.310(2), F.A.C. and AC64-191015(B)]

Notification, Recordkeeping and Reporting Requirements

C.4. In case of excess emissions resulting from malfunctions, Progress Energy shall notify the Department's Central District Office in accordance with 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rule 62-210.700(6), F.A.C.]

C.5. The owner or operator shall notify the Central District Office of the Department, in writing, at least 15 days prior to the date on which each test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
[Rule 62-297.310(7)(a)9., F.A.C.]

C.6. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling

plane.

11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

C.7. Recordkeeping for Periodic Monitoring. The owner or operator is required to maintain monthly logs of all 12-month rolling averages.
[Rule 62-213.440, F.A.C.]

C.8. Appendix GG. Peaking Combustion Gas Turbines No. 7 through No.10 (92.9 MW each) were originally permitted and constructed pursuant to 40 CFR 60 - Subpart GG, New Stationary Source Performance Standards (NSPS) for Stationary Gas Turbines issued September 10, 1979 as amended November 5, 1987. The most recent version of Subpart GG issued July 8, 2004 is attached as Appendix GG. It imposes no additional requirements, but provides alternatives available to the applicant with respect to use of continuous emission monitoring systems (CEMS) in lieu of water-to-fuel ratio monitoring for the purposes of compliance with the nitrogen oxides requirements.
[40 CFR 60, Subpart GG and Rule 62-204. 800 (7) F.A.C]

Section IV. This section is the Acid Rain Part.

Operated by: **Progress Energy Florida**
ORIS code: **6046**

Subsection A. This subsection addresses Acid Rain, Phase II.

The emissions units listed below are regulated under Phase II of the federal Acid Rain Program.

E.U. ID No.	Brief E.U. Description
-015	Combustion Turbine Unit No. 7
-016	Combustion Turbine Unit No. 8
-017	Combustion Turbine Unit No. 9
-018	Combustion Turbine Unit No. 10

A.1. The Phase II part application submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these Phase II acid rain unit(s) must comply with the standard requirements and special provisions set forth in the application(s) listed below:
a. DEP Form No. 62-210.900(1)(a), signed by the Designated Representative on April 26, 2004.
[Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO_2) allowance allocations for each Acid Rain unit are as follows:

E.U. ID No.	EPA ID	Year	2005	2006	2007	2009	2009
-015	07	SO2 allowances, under Table 2 of 40 CFR Part 73	705*	705*	705*	705*	705*
-016	08	SO2 allowances, under Table 2 of 40 CFR Part 73	705*	705*	705*	705*	705*

E.U. ID No.	EPA ID	Year	2005	2006	2007	2008	2009
-017	**09**	SO2 allowances, under Table 2 of 40 CFR Part 73	705*	705*	705*	705*	705*
-018	**10**	SO2 allowances, under Table 2 of 40 CFR Part 73	705*	705*	705*	705*	705*

*The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 of 40 CFR 73.

A.3. Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.
1. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
2. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
3. Allowances shall be accounted for under the Federal Acid Rain Program.
[Rule 62-213.440(1)(c), F.A.C.]

A.4. Fast-Track Revisions of Acid Rain Parts. Those Acid Rain sources making a change described at Rule 62-214.370(4), F.A.C., may request such change as provided in Rule 62-213.413, Fast-Track Revisions of Acid Rain Parts.
[Rule 62-213.413, F.A.C.]

A.5. Comments, Notes, and Justifications: None

Section IV. Referenced Attachments

Phase II Acid Rain Part Renewal Application signed by the Designated Representative on April 26, 2004.
Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers
Appendix H-1, Permit History
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix SS-1, Stack Sampling Facilities (Version Dated 10/07/96)
Appendix TV-4, Title V Conditions (version dated 02/12/02)
Figure 1 - Summary Report-Gaseous And Opacity Excess Emission And Monitoring System Performance Report (version Dated 7/96)
Table 297.310-1, Calibration Schedule (Version Dated 10/07/96)
Table 1-1, Summary of Air Pollutant Standards and Terms
Table 2-1, Summary of Compliance Requirements

Appendix H-1, Permit History

Progress Energy Florida
DeBary Facility

Title V Permit Renewal No. **1270028-007-AV**
Facility ID No. 1270028

Regulated Emissions Units:

E.U. ID No.	Brief Emission Unit Description
-003	51.9 MW Peaking Combustion Turbine Unit No. 1
-005	51.9 MW Peaking Combustion Turbine Unit No. 2
-007	51.9 MW Peaking Combustion Turbine Unit No. 3
-009	51.9 MW Peaking Combustion Turbine Unit No. 4
-011	51.9 MW Peaking Combustion Turbine Unit No. 5
-013	51.9 MW Peaking Combustion Turbine Unit No. 6
-015	92.9 MW Peaking Combustion Turbine Unit No. 7
-016	92.9 MW Peaking Combustion Turbine Unit No. 8
-017	92.9 MW Peaking Combustion Turbine Unit No. 9
-018	92.9 MW Peaking Combustion Turbine Unit No. 10

Permit History (for tracking purposes):

E.U. ID No.	Brief Project Description	Permit No.	Effective Date	Expiration Date
-015 – -018	To construct/install six 92.9 MW, oil fired simple cycle peaking combustion turbines.	PSD-FL-167 AC64- 191015	10/18/91	January 31, 1993.
-015 – -018	To extend permit expiration date to March 31, 1993	PSD-FL-167A AC64- 191015A	11/23/92	March 31, 1993
-015 – -018	To extend permit expiration date to June 30, 1993	PSD-FL-167B AC64 191015B	4/8/93	June 30, 1993
-015 – -018	To extend expiration date to July 30, 1993. Letter of approval revised on July 7, 1993.	PSD-FL-167C AC64- 191015C	6/29/93	July 30, 1993
-015 – -018	To change EPA Method 3 to 3A	PSD-FL-167D AC64- 191015D	6/30/93	July 30, 1993
-015 – -018	To extend permit expiration date to August 31, 1993	PSD-FL-167E AC64- 191015E	8/3/93	August 31, 1993
-015 – -018	To replace trace element limits with use of low sulfur oil	PSD-FL-167F AC64- 191015F	8/11/93	
-015 – -018	To correct PM basis and SAM emission limits	PSD-FL-167G AC64- 191015G	8/30/93	
-015 – -018	To incorporate heat input curves	PSD-FL-167H AC64- 191015H	9/21/94	

E.U. ID No.	Brief Project Description	Permit No.	Effective Date	Expiration Date
All	Initial Title V Permit	1270028-001-AV	1/1/00 (Iss. 6/14/99)	12/31/04
-015 – -018	Construction permit modification to add natural gas combustion to turbines 7, 8, 9 & 10	1270028-002-AC PSD-FL-167I	5/6/97	12/31/97
All	Title V Permit Revision #1 - changes the continuous monitoring method for NO_X to CEMs; and, allows the use of RATA in lieu of additional Method 20 NO_X stack test.	1270028-003-AV	6/11/00	12/31/04
-015 – -018	Construction permit modification to install inlet foggers on turbines 7, 8, 9 & 10	1270028-004-AC PSD-FL-167J	3/31/00	3/31/05
-015 – -018	Title V Permit Revision #2 – to incorporate the inlet fogging conditions of 1270028-004-AC	1270028-005-AV	6/26/01	12/31/04
015 – -018	Construction permit modification to incorporate conditions related to the use of the Acid Rain CEMS for CAM /Water-to-fuel ratio/BACTLimits Compliance	1270028-006-AC PSD-FL-167K		

Appendix I-1, List of Insignificant Emissions Units and/or Activities.

Progress Energy Florida — Title V Permit Renewal No. **1270028-007-AV**
DeBary Facility — Facility ID No. 1270028

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, or that meet the criteria specified in Rule 62-210.300(3)(b)1., F.A.C., Generic Emissions Unit Exemption, are exempt from the permitting requirements of Chapters 62-210, 62-212 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

1. Comfort heating < 1 MMBtu/hr
2. Sand blaster
3. Non-industrial vacuum cleaning
4. Refrigeration equipment
5. Degreasing units using heavier-than-air vapors exclusively, except any such unit using or emitting any substance classified as a hazardous air pollutant.
6. Sanders < 5 sq.ft.
7. Lab equipment used for chemical or physical analyses
8. Brazing, soldering or welding equipment
9. Emergency generators
10. General purpose engines
11. Fire and safety equipment
12. Surface coating
13. Space heating equipment (non-boilers)
14. Petroleum lubrication systems
15. Vehicle refueling operations and associated fuel storage
16. One 13,309,800 (nominal) gallon storage tank for new No. 2 fuel oil
17. One 2,185,218 (nominal) gallon storage tank for new No. 2 fuel oil
18. One 180 (nominal) gallon storage tank for diesel equipment
19. One 300 (nominal) gallon storage tank for unleaded gasoline
20. Ten 546 (nominal) gallon storage tanks for waste oil
21. One 2700 (nominal) gallon surge tank for lube oil
22. One 500 (nominal) gallon storage tank for diesel
23. One 500 (nominal) gallon storage surge tank
24. One overboard tank
25. Truck unloading
26. Non-halogenated solvent storage and cleaning operations, provided the solvents contain none of the hazardous air pollutants listed at Rule 62-210.200, F.A.C.
27. Diesel Generator (Detroit Diesel Allison-PTA-1SD-50)
28. Diesel/Caterpillar 3500/2500 hp/ 1879 kW

Table 1-1, Summary of Air Pollutant Standards and Terms

Progress Energy Florida
DeBary Facility

Permit No. 1270028-007-AV
Facility ID No. 1270028

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E.U. ID No. **Brief Description**
-001 Peaking Combustion Turbine (PCT) Units 1, 2, 3, 4, 5 and 6

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs /hour	TPY	Regulatory Citation(s	See permit condition(s)
SO2	No. 2 fuel oil	8760	0.5% sulfur by weight						III.A.4
SO2	No. 6 fuel oil	8760	0.7% sulfur by weight						III.A.5
VE	No. 2 or No. 6 fuel oil	8760	20% opacity						III.A.6

Notes:
* The "Equivalent Emissions" listed are for informational purposes only.

Table 1-1, Summary of Air Pollutant Standards and Terms

Progress Energy of Florida
DeBary Facility

Permit No.: 1270028-007-AV
Facility ID No.: 1270028

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E.U. ID No. **Brief Description**
-002 Combustion Turbine (CT) Units 7, 8, 9 and 10

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year**	Standard(s)	lbs./hour	TPY (4 CTs)	lbs./hour	TPY	Regulatory Citation(s	See permit condition(s)
NOx	No. 2 fuel oil gas	3390 (equivalent) 3390 (equivalent)	42 ppmvd @15% O2 25 ppmd @ 15% O2	182/unit 107/unit	1,234 726				III.B.7.
SO2	No. 2 fuel oil gas	3390 (equivalent) 3390 (equivalent)	0.3% avg. sulfur by weight 0.8% sulfur by weight	555/unit	1,925				III.B.8. III.B.9.
VE	No. 2 fuel oil and gas	3390 (equivalent)	20% opacity below full load and 10% opacity at full load						III.B.14.
PM/PM10	No. 2 fuel oil and gas	3390 (equivalent)	0.015 lb/MMBtu	15.0/unit	102				III.B.10.
VOC	No. 2 fuel oil and gas	3390 (equivalent)		5.0/unit	34				III.B.11.
CO	No. 2 fuel oil and gas	3390 (equivalent)		54/unit	365				III.B.12.
H2SO4 Mist	No. 2 fuel oil and gas	3390 (equivalent)	0.3% sulfur by weight	69/unit	469				III.B.13.

Notes:
* The "Equivalent Emissions" listed are for informational purposes only.
** At 38.7 capacity factor, each turbine may operate up to an equivalent of 3,390 hours and 13,560 hours for any combination.

Table 2-1, Summary of Compliance Requirements

Progress Energy Florida
DeBary Facility

Permit No. 1270028-007-AV
Facility ID No. 1270028

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E.U. ID No.	**Brief Description**
-001	Peaking Combustion Turbine (PCT) Units 1, 2, 3, 4, 5 and 6

Pollutant Name or Parameter	Fuel(s)	Compliance Method	Testing Time Frequency	Frequency Base Date*	Min. Compliance Test Duration	CMS**	See permit condition(s)
SO2	No. 2 or No. 6 fuel oil	Fuel oil analysis	Each Delivery				III.A.7.
VE	No. 2 or No. 6 fuel oil	EPA Method 9	Annually	1-Apr			III.A.10., 11 and 12

Notes:
* The frequency base date is established for planning purposes only; see Rule 62-297.310, F.A.C.
**CMS [=] continuous monitoring system

Table 2-1, Summary of Compliance Requirements

Progress Energy of Florida
DeBary Facility

Permit No.: 1270028-007-AV
Facility ID No.: 1270028

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E.U. ID No.	Brief Description
-002	Combustion Turbine (CT) Units 7, 8, 9 and 10

Pollutant Name or Parameter	Fuel(s)	Compliance Method	Testing Time Frequency	Frequency Base Date *	Min. Compliance Test Duration	CMS**	See permit condition(s)
NOx	No. 2 fuel and gas	EPA Method 20	annually	1-Apr	1 hour	yes[1]	III.B.7., B.16.
SO2	No. 2 fuel and gas	EPA Method 6 or tests methods in ASTM D 2880-94	see custom fuel monitoring plan				III.B.17, 38 and 39
PM/PM10	No. 2 fuel and gas	EPA Method 5	annually	1-Apr	1 hour		III.B.18. and 19.
VOC	No. 2 fuel and gas	EPA Method 25A	annually	1-Apr	1 hour		III.B.20.
CO	No. 2 fuel and gas	EPA Method 10	annually	1-Apr	1 hour		III.B.21.
VE	No. 2 fuel and gas	EPA Method 9	annually	1-Apr	1 hour		III.B.22.
H2SO4	No. 2 fuel and gas	EPA Method 8 or tests methods in ASTM D 2880-94	annually	1-Apr	1 hour		III.B.23.
Water/fuel fuel consumption						yes yes	III.B.41and B.42 III.B.41. and B.42

Notes:

[1]CEMS are used to demonstrate compliance.

* The frequency base date is established for planning purposes only; see Rule 62-297.310, F.A.C.

**CMS [=] continuous monitoring system

APPENDIX GG
NSPS for Gas Combustion Turbines

Updated 7/8/04

Source [44 FR 52798, Sept. 10, 1979, as amended at 52 FR 42434, Nov. 5, 1987; 65 FR 61759, Oct. 17, 2000; 69 FR 41346, July 8, 2004]

Subpart GG-Standards of Performance for Stationary Gas Turbines

§ 60.330 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired.

(b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of this part except as provided in paragraphs (e) and (j) of § 60.332.

§ 60.331 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Stationary gas turbine* means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.

(b) *Simple cycle gas turbine* means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.

(c) *Regenerative cycle gas turbine* means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine.

(d) *Combined cycle gas turbine* means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.

(e) *Emergency gas turbine* means any stationary gas turbine which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation.

(f) *Ice fog* means an atmospheric suspension of highly reflective ice crystals.

(g) *ISO standard day conditions* means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.

(h) *Efficiency* means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.

(i) *Peak load* means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.

(j) *Base load* means the load level at which a gas turbine is normally operated.

(k) *Fire-fighting turbine* means any stationary gas turbine that is used solely to pump water for extinguishing fires.

(l) *Turbines employed in oil/gas production or oil/gas transportation* means any stationary gas turbine used to provide power to extract crude oil/natural gas from the earth or to move crude oil/natural gas, or products refined from these substances through pipelines.

(m) A *Metropolitan Statistical Area* or *MSA* as defined by the Department of Commerce.

(n) *Offshore platform gas turbines* means any stationary gas turbine located on a platform in an ocean.

(o) *Garrison facility* means any permanent military installation.

(p) *Gas turbine model* means a group of gas turbines having the same nominal air flow, combuster inlet pressure, combuster inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.

(q) *Electric utility stationary gas turbine* means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.

(r) *Emergency fuel* is a fuel fired by a gas turbine only during circumstances, such as natural gas supply curtailment or breakdown of delivery system, that make it impossible to fire natural gas in the gas turbine.

(s) Unit operating hour means a clock hour during which any fuel is combusted in the affected unit. If the unit combusts fuel for the entire clock hour, it is considered to be a full unit operating hour. If the unit combusts fuel for only part of the clock hour, it is considered to be a partial unit operating hour.

(t) Excess emissions means a specified averaging period over which either:

(1) The NO_X emissions are higher than the applicable emission limit in Sec. 60.332;

(2) The total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in Sec. 60.333; or

(3) The recorded value of a particular monitored parameter is outside the acceptable range specified in the parameter monitoring plan for the affected unit.

(u) Natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet. Equivalents of this in other units are as follows: 0.068 weight percent total sulfur, 680 parts per million by weight (ppmw) total sulfur, and 338 parts per million by volume (ppmv) at 20 degrees Celsius total sulfur. Additionally, natural gas must either be composed of at least 70 percent methane by

volume or have a gross calorific value between 950 and 1100 British thermal units (Btu) per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

(v) Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

(w) Lean premix stationary combustion turbine means any stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture for combustion in the combustor. Mixing may occur before or in the combustion chamber. A unit which is capable of operating in both lean premix and diffusion flame modes is considered a lean premix stationary combustion turbine when it is in the lean premix mode, and it is considered a diffusion flame stationary combustion turbine when it is in the diffusion flame mode.

(x) Diffusion flame stationary combustion turbine means any stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition. A unit which is capable of operating in both lean premix and diffusion flame modes is considered a lean premix stationary combustion turbine when it is in the lean premix mode, and it is considered a diffusion flame stationary combustion turbine when it is in the diffusion flame mode.

(y) Unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

§ 60.332 Standard for nitrogen oxides.

(a) On and after the date on which the performance test required by § 60.8 is completed, every owner or operator subject to the provisions of this subpart as specified in paragraphs (b), (c), and (d) of this section shall comply with one of the following, except as provided in paragraphs (e), (f), (g), (h), (i), (j), (k), and (l) of this section.

(1) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0075\frac{(14.4)}{Y} + F$$

where:

STD = allowable ISO corrected (if required as given in Sec. 60.335(b)(1)) NO_X emission concentration (percent by volume at 15 percent oxygen and on a dry basis),
Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and

F = NO_X emission allowance for fuel-bound nitrogen as defined in paragraph (a)(4) of this section.

(2) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0150\frac{(14.4)}{Y} + F$$

where:
STD = allowable ISO corrected (if required as given in Sec. 60.335(b)(1)) NO_X emission concentration (percent by volume at 15 percent oxygen and on a dry basis),
Y = manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour, and
F = NOX emission allowance for fuel-bound nitrogen as defined in paragraph (a)(4) of this section.

(3) The use of F in paragraphs (a)(1) and (2) of this seciton is optional. That is, the owner or operator may choose to apply a NO_X allowance for fuel-bound nitrogen and determine the appropriate F-value in accordance with paragraph (a)(4) of this section or may accept an F-value of zero.

(4) If the owner or operator elects to apply a NO_X emission allowance for fuel-bound nitrogen, F shall be defined according to the nitrogen content of the fuel during the most recent performance test required under Sec. 60.8 as follows:

Fuel-bound nitrogen (% by weight)	F (NO_X% by volume)
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04(N)
$0.1 < N \leq 0.25$	0.004+0.0067(N-0.1)
$N > 0.25$	0.005

Where:
N = the nitrogen content of the fuel (percent by weight).or:
Manufacturers may develop and submit to EPA custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Administrator before the initial performance test required by Sec. 60.8. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register.

(b) Electric utility stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired shall comply with the provisions of paragraph (a)(1) of this section.

(c) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired, shall comply with the provisions of paragraph (a)(2) of this section.

(d) Stationary gas turbines with a manufacturer's rated base load at ISO conditions of 30 megawatts or less except as provided in § 60.332(b) shall comply with paragraph (a)(2) of this section.

(e) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired and that have commenced construction prior to October 3, 1982 are exempt from paragraph (a) of this section.

(f) Stationary gas turbines using water or steam injection for control of NO_X emissions are exempt from paragraph (a) when ice fog is deemed a traffic hazard by the owner or operator of the gas turbine.

(g) Emergency gas turbines, military gas turbines for use in other than a garrison facility, military gas turbines installed for use as military training facilities, and fire fighting gas turbines are exempt from paragraph (a) of this section.

(h) Stationary gas turbines engaged by manufacturers in research and development of equipment for both gas turbine emission control techniques and gas turbine efficiency improvements are exempt from paragraph (a) on a case-by-case basis as determined by the Administrator.

(i) Exemptions from the requirements of paragraph (a) of this section will be granted on a case-by-case basis as determined by the Administrator in specific geographical areas where mandatory water restrictions are required by governmental agencies because of drought conditions. These exemptions will be allowed only while the mandatory water restrictions are in effect.

(j) Stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour that commenced construction, modification, or reconstruction between the dates of October 3, 1977, and January 27, 1982, and were required in the September 10, 1979, Federal Register (44 FR 52792) to comply with paragraph (a)(1) of this section, except electric utility stationary gas turbines, are exempt from paragraph (a) of this section.

(k) Stationary gas turbines with a heat input greater than or equal to 10.7 gigajoules per hour (10 million Btu/hour) when fired with natural gas are exempt from paragraph (a)(2) of this section when being fired with an emergency fuel.

(l) Regenerative cycle gas turbines with a heat input less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) are exempt from paragraph (a) of this section.

§ 60.333 Standard for sulfur dioxide.

On and after the date on which the performance test required to be conducted by § 60.8 is completed, every owner or operator subject to the provision of this subpart shall comply with one or the other of the following conditions:

(a) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

(b) No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).

§ 60.334 Monitoring of operations.

(a) Except as provided in paragraph (b) of this section, the owner or operator of any stationary gas turbine subject to the provisions of this subpart and using water or steam injection to control NO_X emissions shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine.

(b) The owner or operator of any stationary gas turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and which uses water or steam injection to control NO_X emissions may, as an alternative to operating the continuous monitoring system described in paragraph (a) of this section, install, certify, maintain, operate, and quality-assure a continuous emission monitoring system (CEMS) consisting of NO_X and O2 monitors. As an alternative, a CO2 monitor may be used to adjust the measured NO_X concentrations to 15 percent O2 by either converting the CO2 hourly averages to equivalent O2 concentrations using Equation F-14a or F-14b in appendix F to part 75 of this chapter and making the adjustments to 15 percent O2, or by using the CO2 readings directly to make the adjustments, as described in Method 20. If the option to use a CEMS is chosen, the CEMS shall be installed, certified, maintained and operated as follows:

(1) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR part 60, appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO_X and diluent monitors may be performed individually or on a combined basis, i.e., the relative accuracy tests of the CEMS may be performed either:

(i) On a ppm basis (for NO_X) and a percent O2 basis for oxygen; or

(ii) On a ppm at 15 percent O2 basis; or

(iii) On a ppm basis (for NO_X) and a percent CO2 basis (for a CO2 monitor that uses the procedures in Method 20 to correct the NO_X data to 15 percent O2).

(2) As specified in Sec. 60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour.

(3) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in Sec. 60.13(h).

(i) For each unit operating hour in which a valid hourly average, as described in paragraph (b)(2) of this section, is obtained for both NO_X and diluent, the data acquisition and handling system must calculate and record the hourly NO_X emissions in the

units of the applicable NO_X emission standard under Sec. 60.332(a), i.e., percent NO_X by volume, dry basis, corrected to 15 percent O2 and International Organization for Standardization (ISO) standard conditions (if required as given in Sec. 60.335(b)(1)). For any hour in which the hourly average O2 concentration exceeds 19.0 percent O2, a diluent cap value of 19.0 percent O2 may be used in the emission calculations.

(ii) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air (Ho), minimum ambient temperature (Ta), and minimum combustor inlet absolute pressure (Po) into the ISO correction equation.

(iii) If the owner or operator has installed a NO_X CEMS to meet the requirements of part 75 of this chapter, and is continuing to meet the ongoing requirements of part 75 of this chapter, the CEMS may be used to meet the requirements of this section, except that the missing data substitution methodology provided for at 40 CFR part 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in Sec. 60.7(c).

(c) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and which does not use steam or water injection to control NO_X emissions, the owner or operator may, for purposes of determining excess emissions, use a CEMS that meets the requirements of paragraph (b) of this section. Also, if the owner or operator has previously submitted and received EPA or local permitting authority approval of a petition for an alternative procedure of continuously monitoring compliance with the applicable NO_X emission limit under Sec. 60.332, that approved procedure may continue to be used, even if it deviates from paragraph (a) of this section.

(d) The owner or operator of any new turbine constructed after July 8, 2004, and which uses water or steam injection to control NO_X emissions may elect to use either the requirements in paragraph (a) of this section for continuous water or steam to fuel ratio monitoring or may use a NO_X CEMS installed, certified, operated, maintained, and quality-assured as described in paragraph (b) of this section.

(e) The owner or operator of any new turbine that commences construction after July 8, 2004, and which does not use water or steam injection to control NO_X emissions may elect to use a NO_X CEMS installed, certified, operated, maintained, and quality-assured as described in paragraph (b) of this section. An acceptable alternative to installing a CEMS is described in paragraph (f) of this section.

(f) The owner or operator of a new turbine who elects not to install a CEMS under paragraph (e) of this section, may instead perform continuous parameter monitoring as follows:

(1) For a diffusion flame turbine without add-on selective catalytic reduction controls (SCR), the owner or operator shall define at least four parameters indicative of the unit's NO_X formation characteristics and shall monitor these parameters continuously.

(2) For any lean premix stationary combustion turbine, the owner or operator shall continuously monitor the appropriate parameters to determine whether the unit is operating in the lean premixed (low-NO_X) combustion mode.

(3) For any turbine that uses SCR to reduce NO_X emissions, the owner or operator shall continuously monitor appropriate parameters to verify the proper operation of the emission controls.

(4) For affected units that are also regulated under part 75 of this chapter, if the owner or operator elects to monitor NO_X emission rate using the methodology in appendix E to part 75 of this chapter, or the low mass emissions methodology in Sec. 75.19 of this chapter, the requirements of this paragraph (f) may be met by performing the parametric monitoring described in section 2.3 of appendix E or in Sec. 75.19(c)(1)(iv)(H) of this chapter.

(g) The steam or water to fuel ratio or other parameters that are continuously monitored as described in paragraphs (a), (d) or (f) of this section shall be monitored during the performance test required under Sec. 60.8, to establish acceptable values and ranges. The owner or operator may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. The owner or operator shall develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO_X emission controls. The plan shall include the parameter(s) monitored and the acceptable range(s) of the parameter(s) as well as the basis for designating the parameter(s) and acceptable range(s). Any supplemental data such as engineering analyses, design specifications, manufacturer's recommendations and other relevant information shall be included in the monitoring plan. For affected units that are also subject to part 75 of this chapter and that use the low mass emissions methodology in Sec. 75.19 of this chapter or the NO_X emission measurement methodology in appendix E to part 75, the owner or operator may meet the requirements of this paragraph by developing and keeping on-site (or at a central location for unmanned facilities) a quality-assurance plan, as described in Sec. 75.19 (e)(5) or in section 2.3 of appendix E and section 1.3.6 of appendix B to part 75 of this chapter.

(h) The owner or operator of any stationary gas turbine subject to the provisions of this subpart:

(1) Shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in paragraph (h)(3) of this section. The sulfur content of the fuel must be determined using total sulfur methods described in Sec. 60.335(b)(10). Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors Association Standard 2377-86 (all of which are incorporated by reference-see Sec. 60.17), which measure the major sulfur compounds may be used; and

(2) Shall monitor the nitrogen content of the fuel combusted in the turbine, if the owner or operator claims an allowance for fuel bound nitrogen (i.e., if an F-value greater than zero is being or will be used by the owner or operator to calculate STD in Sec. 60.332). The nitrogen content of the fuel shall be determined using methods described in Sec. 60.335(b)(9) or an approved alternative.

(3) Notwithstanding the provisions of paragraph (h)(1) of this section, the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in Sec. 60.331(u), regardless of whether an existing custom schedule approved by the administrator for subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:

(i) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or

(ii) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

(4) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.

(i) The frequency of determining the sulfur and nitrogen content of the fuel shall be as follows:

(1) Fuel oil. For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to part 75 of this chapter (i.e., flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). If an emission allowance is being claimed for fuel-bound nitrogen, the nitrogen content of the oil shall be determined and recorded once per unit operating day.

(2) Gaseous fuel. Any applicable nitrogen content value of the gaseous fuel shall be determined and recorded once per unit operating day. For owners and operators that elect not to demonstrate sulfur content using options in paragraph (h)(3) of this section, and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.

(3) Custom schedules. Notwithstanding the requirements of paragraph (i)(2) of this section, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (i)(3)(i) and (i)(3)(ii) of this section, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in Sec. 60.333.

(i) The two custom sulfur monitoring schedules set forth in paragraphs (i)(3)(i)(A) through (D) and in paragraph (i)(3)(ii) of this section are acceptable, without prior Administrative approval:

(A) The owner or operator shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified in this subpart. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the fuel's total sulfur content shall be as specified in paragraph (i)(3)(i)(B), (C), or (D) of this section, as applicable.

(B) If none of the 30 daily measurements of the fuel's total sulfur content exceeds 0.4 weight percent (4000 ppmw), subsequent sulfur content monitoring may be performed at 12 month intervals. If any of the samples taken at 12-month intervals has a total sulfur content between 0.4 and 0.8 weight percent (4000 and 8000 ppmw), follow the procedures in paragraph (i)(3)(i)(C) of this section. If any measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section.

(C) If at least one of the 30 daily measurements of the fuel's total sulfur content is between 0.4 and 0.8 weight percent (4000 and 8000 ppmw), but none exceeds 0.8 weight percent (8000 ppmw), then:

(1) Collect and analyze a sample every 30 days for three months. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, follow the procedures in paragraph (i)(3)(i)(C)(2) of this section.

(2) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, follow the procedures in paragraph (i)(3)(i)(C)(3) of this section.

(3) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), follow the procedures in paragraph (i)(3)(i)(D) of this section. Otherwise, continue to monitor at this frequency.

(D) If a sulfur content measurement exceeds 0.8 weight percent (8000 ppmw), immediately begin daily monitoring according to paragraph (i)(3)(i)(A) of this section. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than 0.8 weight percent (8000 ppmw), are obtained. At that point, the applicable procedures of paragraph (i)(3)(i)(B) or (C) of this section shall be followed.

(ii) The owner or operator may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of appendix D to part 75 of this chapter to determine a custom sulfur sampling schedule, as follows:

(A) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf (i.e., the maximum total sulfur content of natural gas as defined in Sec. 60.331(u)), no additional monitoring of the sulfur content of the gas is required, for the purposes of this subpart.

(B) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds 0.4 weight percent (4000 ppmw), then the minimum required sampling frequency shall be one sample at 12 month intervals.

(C) If any sample result exceeds 0.4 weight percent sulfur (4000 ppmw), but none exceeds 0.8 weight percent sulfur (8000 ppmw), follow the provisions of paragraph (i)(3)(i)(C) of this section.

(D) If the sulfur content of any of the 720 hourly samples exceeds 0.8 weight percent (8000 ppmw), follow the provisions of paragraph (i)(3)(i)(D) of this section.

(j) For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content or fuel nitrogen content under this subpart, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with Sec. 60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under Sec. 60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined as follows:

(1) Nitrogen oxides.

(i) For turbines using water or steam to fuel ratio monitoring:

(A) An excess emission shall be any unit operating hour for which the average steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with Sec. 60.332, as established during the performance test required in Sec. 60.8. Any unit operating hour in which no water or steam is injected into the turbine shall also be considered an excess emission.

(B) A period of monitor downtime shall be any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.

(C) Each report shall include the average steam or water to fuel ratio, average fuel consumption, ambient conditions (temperature, pressure, and humidity), gas turbine load, and (if applicable) the nitrogen content of the fuel during each excess emission. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in Sec. 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of Sec. 60.335(b)(1).

(ii) If the owner or operator elects to take an emission allowance for fuel bound nitrogen, then excess emissions and periods of monitor downtime are as described in paragraphs (j)(1)(ii)(A) and (B) of this section.

(A) An excess emission shall be the period of time during which the fuel-bound nitrogen (N) is greater than the value measured during the performance test required in Sec. 60.8 and used to determine the allowance. The excess emission begins on the date and hour of the sample which shows that N is greater than the performance test value, and ends with the date and hour of a subsequent sample which shows a fuel nitrogen content less than or equal to the performance test value.

(B) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour that a required sample is taken, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

(iii) For turbines using NO_X and diluent CEMS:

(A) An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO_X concentration exceeds the applicable emission limit in Sec. 60.332(a)(1) or (2). For the purposes of this subpart, a ``4-hour rolling average NO_X concentration" is the arithmetic average of the average NO_X concentration measured by the CEMS for a given hour (corrected to 15 percent O2 and, if required under Sec. 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NO_X concentrations immediately preceding that unit operating hour.

(B) A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO_X concentration or diluent (or both).

(C) Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in Sec. 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of Sec. 60.335(b)(1).

(iv) For turbines required under paragraph (f) of this section to monitor combustion parameters or parameters that document proper operation of the NO_X emission controls:

(A) An excess emission shall be a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.

(B) A period of monitor downtime shall be a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

(2) Sulfur dioxide. If the owner or operator is required to monitor the sulfur content of the fuel under paragraph (h) of this section:

(i) For samples of gaseous fuel and for oil samples obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 weight percent and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(ii) If the option to sample each delivery of fuel oil has been selected, the owner or operator shall immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur

content of a delivery exceeds 0.8 weight percent. The owner or operator shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and shall evaluate excess emissions according to paragraph (j)(2)(i) of this section. When all of the fuel from the delivery has been burned, the owner or operator may resume using the as-delivered sampling option.

(iii) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample.

(3) *Ice fog.* Each period during which an exemption provided in § 60.332(f) is in effect shall be reported in writing to the Administrator quarterly. For each period the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time the air pollution control system was reactivated shall be reported. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(4) *Emergency fuel.* Each period during which an exemption provided in § 60.332(k) is in effect shall be included in the report required in § 60.7(c). For each period, the type, reasons, and duration of the firing of the emergency fuel shall be reported.

(5) All reports required under Sec. 60.7(c) shall be postmarked by the 30th day following the end of each calendar quarter.

Sec. 60.335 Test methods and procedures.

(a) The owner or operator shall conduct the performance tests required in Sec. 60.8, using either

(1) EPA Method 20,

(2) ASTM D6522-00 (incorporated by reference, see Sec. 60.17), or

(3) EPA Method 7E and either EPA Method 3 or 3A in appendix A to this part, to determine NO_X and diluent concentration.

(4) Sampling traverse points are to be selected following Method 20 or Method 1, (non-particulate procedures) and sampled for equal time intervals. The sampling shall be performed with a traversing single-hole probe or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

(5) Notwithstanding paragraph (a)(4) of this section, the owner or operator may test at few points than are specified in Method 1 or Method 20 if the following conditions are met:

(i) You may perform a stratification test for NO_X and diluent pursuant to

(A) [Reserved]

(B) The procedures specified in section 6.5.6.1(a) through (e) appendix A to part 75 of this chapter.

(ii) Once the stratification sampling is completed, the owner or operator may use the following alternative sample point selection criteria for the performance test:

(A) If each of the individual traverse point NO_X concentrations, normalized to 15 percent O2, is within 10 percent of the mean normalized concentration for all traverse points, then you may use 3 points (located either 16.7, 50.0, and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The 3 points shall be located along the

measurement line that exhibited the highest average normalized NO_X concentration during the stratification test; or

(B) If each of the individual traverse point NO_X concentrations, normalized to 15 percent O2, is within 5 percent of the mean normalized concentration for all traverse points, then you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid.

(6) Other acceptable alternative reference methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in Sec. 60.332 and shall meet the performance test requirements of Sec. 60.8 as follows:

(1) For each run of the performance test, the mean nitrogen oxides emission concentration (NO_{Xo}) corrected to 15 percent O2 shall be corrected to ISO standard conditions using the following equation. Notwithstanding this requirement, use of the ISO correction equation is optional for: Lean premix stationary combustion turbines; units used in association with heat recovery steam generators (HRSG) equipped with duct burners; and units equipped with add-on emission control devices:

$$NO_X=(NO_{Xo})(P_r/P_o)^{0.5}\, e^{19\,(H_o-0.00633)}\,(288[\text{deg}]K/Ta)^{1.53}$$

Where:
NO_X = emission concentration of NO_X at 15 percent O2 and ISO standard ambient conditions, ppm by volume, dry basis,
NO_{Xo} = mean observed NO_X concentration, ppm by volume, dry basis, at 15 percent O2,
P_r = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg,
P_o = observed combustor inlet absolute pressure at test, mm Hg,
H_o = observed humidity of ambient air, g H2O/g air,
e = transcendental constant, 2.718, and
T_a = ambient temperature, [deg]K.

(2) The 3-run performance test required by Sec. 60.8 must be performed within 5 percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Notwithstanding theserequirements, performance testing is not required for any emergency fuel (as defined in Sec. 60.331).

(3) For a combined cycle turbine system with supplemental heat (duct burner), the owner or operator may elect to measure the turbine NO_X emissions after the duct burner rather than directly after the turbine. If the owner or operator elects to use this alternative sampling location, the applicable NO_X emission limit in Sec. 60.332 for the combustion turbine must still be met.

(4) If water or steam injection is used to control NO_X with no additional post-combustion NO_X control and the owner or operator chooses to monitor the steam or water to fuel ratio in accordance with Sec. 60.334(a), then that monitoring system must be operated concurrently with each EPA Method 20, ASTM D6522-00 (incorporated by reference, see Sec. 60.17), or EPA Method 7E run and shall be used to determine the fuel consumption and the

steam or water to fuel ratio necessary to comply with the applicable Sec. 60.332 NO_X emission limit.

(5) If the owner operator elects to claim an emission allowance for fuel bound nitrogen as described in Sec. 60.332, then concurrently with each reference method run, a representative sample of the fuel used shall be collected and analyzed, following the applicable procedures described in Sec. 60.335(b)(9). These data shall be used to determine the maximum fuel nitrogen content for which the established water (or steam) to fuel ratio will be valid.

(6) If the owner or operator elects to install a CEMS, the performance evaluation of the CEMS may either be conducted separately (as described in paragraph (b)(7) of this section) or as part of the initial performance test of the affected unit.

(7) If the owner or operator elects to install and certify a NO_X CEMS under Sec. 60.334(e), then the initial performance test required under Sec. 60.8 may be done in the following alternative manner:

(i) Perform a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load.

(ii) Use the test data both to demonstrate compliance with the applicable NO_X emission limit under Sec. 60.332 and to provide the required reference method data for the RATA of the CEMS described under Sec. 60.334(b).

(iii) The requirement to test at three additional load levels is waived.

(8) If the owner or operator is required under Sec. 60.334(f) to monitor combustion parameters or parameters indicative of proper operation of NO_X emission controls, the appropriate parameters shall be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in Sec. 60.334(g).

(9) To determine the fuel bound nitrogen content of fuel being fired (if an emission allowance is claimed for fuel bound nitrogen), the owner or operator may use equipment and procedures meeting the requirements of:

(i) For liquid fuels, ASTM D2597-94 (Reapproved 1999), D6366-99, D4629-02, D5762-02 (all of which are incorporated by reference, see Sec. 60.17); or

(ii) For gaseous fuels, shall use analytical methods and procedures that are accurate to within 5 percent of the instrument range and are approved by the Administrator.

(10) If the owner or operator is required under Sec. 60.334(i)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129-00, D2622-98, D4294-02, D1266-98, D5453-00 or D1552-01 (all of which are incorporated by reference, see Sec. 60.17); or

(ii) For gaseous fuels, ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01 (all of which are incorporated by reference, see Sec. 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator.

(11) The fuel analyses required under paragraphs (b)(9) and (b)(10) of this section may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) Instead of using the equation in paragraph (b)(1) of this section, manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in Sec. 60.8 to ISO standard day conditions.

Friday, Barbara

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Cc: Cascio, Tom

Subject: PROPOSED Title V Permit Renewal No. 1270028-007-AV - Progress Energy Florida - DeBary Facility

Find attached the zip file for subject PROPOSED Title V Permit Renewal for your information and files.

If I may be of further assistance, please feel free to contact me.

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